

In the Claims

Please cancel claims 2, 3, 6, 7, 11-12, 17, and 39-40 without prejudice.

Please amend claims 1, 8-10, 13, 19, 23-27, 30-31, 33-35, 38, and 41-45 as follows:

1. (Currently amended) A method of enhancing an endogenous immune response-mediated specific elimination of a population of ~~pathogenic~~ cancer cells in a host animal harboring said population wherein the members of said cell population have an accessible binding site for a ~~ligand~~ folate receptor-binding ligand, said method comprising the step of

administering to said host a composition comprising an immunogen conjugated to a folate receptor-binding ligand selected from the group consisting of folate and analogs and derivatives thereof ~~the ligand~~ wherein said immunogen is not an antibody ~~and wherein the immunogen~~ is recognized by an endogenous or an exogenous antibody in the host or is recognized directly by an immune cell in the host; and

administering to said host a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ~~ligand-immunogen~~ conjugate.
2. (Canceled)
3. (Canceled)
4. (Withdrawn) The method of claim 1 wherein the population of pathogenic cells is an exogenous pathogen or an endogenous cell population harboring exogenous pathogens.
5. (Withdrawn) The method of claim 4 wherein the exogenous pathogen is selected from the group consisting of bacteria, fungi, viruses, mycoplasma, and parasites.
6. (Canceled)
7. (Canceled)

8. (Currently amended) The method of claim 1 wherein the folate receptor-binding ligand is chemically complexed to the immunogen through bonding selected from the group consisting of ~~comprising~~ covalent, ionic, or and hydrogen bonding.

9. (Currently amended) The method of claim 8 wherein the folate receptor-binding ligand is a folic acid analog having a glutamyl moiety covalently linked to the immunogen only via the glutamyl γ -carboxyl moiety of the ligand.

10. (Currently amended) The method of claim 8 wherein the folate receptor-binding ligand is a folic acid analog having a glutamyl moiety covalently linked to the immunogen only via the glutamyl α -carboxyl moiety of the ligand.

11. (Canceled)

12. (Canceled)

13. (Currently amended) The method of claim 1 wherein the ligand is a ~~small~~ an organic molecule capable of binding to a receptor and wherein said receptor is preferentially expressed, uniquely expressed or overexpressed on the surface of said population of ~~pathogenic~~ cancer cells.

14. (Withdrawn) The method of claim 12 wherein the small organic molecule is an antimicrobial drug.

15. (Withdrawn) The method of claim 1 wherein the ligand is a β -lactam antibiotic.

16. (Original) The method of claim 1 wherein the ligand binding site is an antigen preferentially expressed, uniquely expressed or overexpressed on metastatic cancer cells.

17. (Canceled)

18. (Original) The method of claim 1 wherein the immunogen is an organic molecule having a molecular weight less than 20,000 daltons.

19. (Currently amended) The method of claim ~~17~~ 18 wherein the organic molecule is fluorescein or dinitrophenyl.
20. (Original) The method of claim 1 wherein the immunogen is an α -galactosyl group.
21. (Original) The method of claim 1 wherein the antibody is exogenous to said host and is co-administered with said conjugate composition.
22. (Previously presented) The method of claim 1 wherein the compound capable of stimulating an endogenous immune response comprises a cytokine.
23. (Currently amended) The method of claim ~~21~~ 22 wherein the cytokine comprises IL-2, IL-12, IL-15, or combinations thereof.
24. (Currently amended) The method of claim ~~21~~ 22 wherein the cytokine comprises IL-2, IL-12, IL-15, or combinations thereof, in combination with IFN- α or IFN- γ .
25. (Currently amended) The method of claim ~~21~~ 22 wherein the cytokine comprises IL-2, IL-12, IL-15, or combinations thereof, in combination with IFN- α or IFN- γ , or a combination thereof, and GM-CSF.
26. (Currently amended) The method of claim ~~21~~ 1 wherein the compound capable of stimulating an endogenous immune response comprises at least one NK cell or T cell stimulant.
27. (Currently amended) The method of claim 1 wherein the ~~ligand-immunogen~~ conjugate composition is administered in multiple injections.
28. (Original) The method of claim 1 wherein the host animal had been previously exposed naturally to the immunogen so that the host animal has a preexisting immunity to said immunogen evidenced by the presence of endogenous antibodies to the immunogen.

29. (Original) The method of claim 1 wherein the host animal had been previously exposed to the immunogen by a non-natural process resulting in priming of the host animal's immune response to said immunogen.

30. (Currently amended) The method of claim ~~28~~ 29 wherein the non-natural process resulting in priming of the animal's immune response is vaccination.

31. (Currently amended) The method of claim ~~28~~ 29 wherein the non-natural process resulting in priming of the immune response is active immunization.

32. (Original) The method of claim 1 wherein the endogenous immune response comprises a humoral immune response.

33. (Currently amended) The method of claim ~~34~~ 32 wherein the humoral response is an acquired immune response.

34. (Currently amended) The method of claim ~~34~~ 32 wherein the humoral response is an innate immune response.

35. (Currently amended) The method of claim ~~32~~ 33 wherein the acquired response is induced by administering into the host animal a vaccine composition.

36. (Original) The method of claim 1 wherein the endogenous immune response comprises a cell-mediated immune response.

37. (Original) The method of claim 1 wherein the endogenous immune response comprises a humoral and a cell-mediated immune response.

38. (Currently amended) A method of enhancing an endogenous immune response-mediated specific elimination of a population of ~~pathogenic~~ cancer cells in a host animal harboring said population wherein said population expresses a binding site for a folate receptor-binding ligand, said method comprising the steps of

administering to the host a composition comprising a complex of said ligand and an immunogen wherein the immunogen is not an antibody;

administering to the host antibodies directed against the immunogen; and

administering to said host a stimulant of an endogenous immune response that does not bind to the ligand-immunogen complex.

39. (Canceled)

40. (Canceled)

41. (Currently amended) A method of enhancing an endogenous immune response-mediated specific elimination of a population of ~~pathogenic~~ cancer cells in a host animal harboring said population wherein said population preferentially expresses, uniquely expresses, or overexpresses ~~a binding site for~~ a folic acid receptor, said method comprising the steps of

administering to said host a composition comprising a covalently linked conjugate of an immunogen wherein the immunogen is not an antibody and wherein the immunogen is recognized by an endogenous or exogenous antibody in the host or is recognized directly by an immune cell in the host;

administering to said host a ligand comprising folic acid or a folic acid ~~analogue~~ analog having a glutamyl group wherein the covalent linkage is only through the γ -carboxy group of the glutamyl group; and

administering to said host a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate.

42. (Currently amended) A method of enhancing an endogenous immune response-mediated specific elimination of a population of ~~pathogenic~~ cancer cells in a host animal harboring said population wherein said population preferentially expresses, uniquely expresses, or overexpresses a folic acid receptor, said method comprising the step of

administering to said host a composition comprising a covalently linked conjugate of an immunogen wherein the immunogen is not an antibody and wherein the immunogen is recognized by an endogenous or exogenous antibody in the host or is recognized directly by an immune cell in the host;

administering to said host a ligand comprising folic acid or a folic acid analogue analog having a glutamyl group wherein the covalent linkage is only through the α -carboxy group of the glutamyl group; and

administering to said host a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate.

43. (Currently amended) A pharmaceutical composition comprising therapeutically effective amounts of a ligand-immunogen conjugate wherein the immunogen is not an antibody ~~capable of specific binding to a population of pathogenic cancer cells in a host animal for specific elimination of said cells by an acquired or innate immune response, co-administered antibodies, or directly by an immune cell in the host,~~ a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate, and a pharmaceutically acceptable carrier therefor.

44. (Currently amended) The pharmaceutical composition of claim 42 43 in a parenteral prolonged release dosage form.

45. (Currently amended) The pharmaceutical composition of claim 42 43 wherein the compound capable of stimulating an endogenous immune response is a cytokine.

46. (Previously presented) The pharmaceutical composition of claim 45 wherein the cytokine comprises a compound selected from the group consisting of IL-2, IL-12, IL-15, IFN- α , IFN- γ , and GM-CSF, or combinations thereof.

47. (Withdrawn) A method of enhancing an endogenous immune response-mediated specific elimination of a population of pathogenic cells in a host animal harboring said population wherein the members of said cell population have an accessible binding site for a ligand, said method comprising the step of

administering to said host a composition comprising an immunogen conjugated to the ligand wherein said immunogen is recognized by an endogenous or an exogenous antibody in the host or is recognized directly by an immune cell in the host; and

administering to said host a therapeutic factor, said factor being selected from the group consisting of a cell killing agent, a tumor penetration enhancer, a chemotherapeutic agent, an antimicrobial agent, a cytotoxic immune cell, and a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate.

Please add claims 48-54 as follows:

48. (New) The pharmaceutical composition of claim 43 wherein the ligand is a vitamin.

49. (New) The pharmaceutical composition of claim 48 wherein the vitamin is folic acid or another folate receptor-binding ligand.

50. (New) The pharmaceutical composition of claim 43 wherein the immunogen is a hapten.

51. (New) The pharmaceutical composition of claim 50 wherein the hapten is fluorescein or dinitrophenyl.

52. (New) A method of enhancing an endogenous immune response-mediated specific elimination of a population of cancer cells in a host animal harboring said population, said method comprising the step of

administering to said host a composition comprising an immunogen conjugated to a ligand that binds to an extracellular epitope of a member of the Ephrin family of proteins wherein said immunogen is not an antibody and wherein the immunogen is recognized by an endogenous or an exogenous antibody in the host or is recognized directly by an immune cell in the host; and

administering to said host a compound capable of stimulating an endogenous immune response wherein the compound does not bind to the ligand-immunogen conjugate.

53. (New) The method of claim 8 wherein the bonding is covalent bonding through a divalent linker.

54. (New) The method of claim 8 wherein the bonding is direct covalent bonding.